CLAIMS

We claim:

1. A bale shape monitor for a round baler having a bale-forming chamber, comprising:

a movable member located within the bale-forming chamber, wherein the movable member is adapted to move in response to growth of the bale within the bale-forming chamber;

a pair of spaced apart rollers rotatably mounted to the movable member, wherein the rollers are arranged to rotate in response to rotation of the bale within the bale-forming chamber; and

a sensor arrangement associated with the rollers for sensing rotation of the rollers and for outputting a signal in response to a sensed differential in the speed of rotation of the rollers, to indicate a differential in bale diameter in the vicinity of the rollers.

2. The bale shape monitor of claim 1, wherein the movable member comprises a laterally rigid frame which extends across the bale-forming chamber.

3. The bale shape monitor of claim 2, wherein the movable member is configured to contact the bale at a location between the rollers.

4. The bale shape monitor of claim 3, wherein the laterally rigid frame carries a series of bale starting members which direct crop material during formation of the bale.

5. The bale shape monitor of claim 1, further comprising a steering indicator interconnected with the sensor arrangement for providing a sensory output to an operator of the round baler indicating the area of the bale having a lesser diameter.

6. A method of detecting a differential in bale diameter in a round bale as the round bale is formed in the bale-forming chamber of a round baler, comprising the steps of:

positioning a pair of rotatable members within the bale-forming chamber, wherein the rotatable members are laterally spaced apart from each other and wherein the rotatable members are arranged to rotate in response to rotation of the bale within

the bale-forming chamber, and to move radially outwardly along with the bale in response to growth of the bale within the bale-forming chamber;

forming a bale within the bale-forming chamber;

sensing rotation of the rotatable members during formation of the bale within the bale-forming chamber; and

outputting a signal when the in response to detection of a differential in the speed of the rotatable members, which indicates a differential in bale diameter during growth of the bale within the bale-forming chamber in the vicinity of the rotatable members.

7. The method of claim 6, wherein the step of positioning the pair of rotatable members within the bale-forming chamber is carried out by mounting the rotatable members to a movable member located within the bale-forming chamber, wherein the movable member is constructed and arranged to move radially outwardly in response to growth of the bale within the bale-forming chamber.

8. The method of claim 7, wherein the step of sensing rotation of the rotatable members during formation of the bale is carried out by interconnecting a rotation sensing arrangement between the movable member and each rotatable member.

9. The method of claim 7, wherein the movable member is configured to contact the bale at a location between the pair of rotatable members.

10. The method of claim 6, wherein the step of outputting a signal is carried out by outputting a sensory signal which provides an indicator to the operator of the round baler as to the side of the bale having a lesser diameter.

11. In a round baler having a bale-forming chamber and a movable member which moves radially outwardly along with the bale during formation of the bale within the bale-forming chamber, the improvement comprising a pair of spaced apart rotatable members mounted to the movable member, wherein the spaced apart rotatable members rotate in response to rotation of the bale when the bale diameter is substantially uniform, and a sensor arrangement interconnected with the rotatable members for detecting rotation of the rotatable members, wherein the sensor arrangement detects a differential in the speed of rotation of the rotatable members so as

to indicate a reduced diameter of the bale in the vicinity of at least one of the rotatable members.

12. The improvement of claim 11, wherein the sensor arrangement comprises a switch mechanism interposed between the movable member and each rotatable member for detecting rotation of the rotatable members relative to the movable member.

13. The improvement of claim 11, wherein the sensor arrangement is operable to detect a differential in the frequency of rotation between the rotatable members.

14. The improvement of claim 11, wherein each rotatable member is located in the vicinity of one of a pair of end areas defined by the bale-forming chamber.

15. The improvement of claim 14, wherein the movable member contacts the bale at a location between the rotatable members.

16. The improvement of claim 15, wherein the baler includes a series of belts, and wherein the rotatable members are arranged to contact the belts which engage an outer surface defined by the bale during formation of the bale within the bale-forming chamber.

17. The improvement of claim 11, further comprising an indicator interconnected with the sensor arrangement for providing an indication as to a differential in bale diameter in the vicinity of the rotatable members.

18. The improvement of claim 17, wherein the indicator comprises a sensory output arrangement for outputting a signal to an operator of the round baler indicating a lesser diameter of the bale in the vicinity of one of the rotatable members.

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